

# Mojave Desert Air Quality Management District

# Staff Report Amendments to Rule 1158 – Electric Power Generating Facilities

Amended on June 26, 2017

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# **List of Acronyms**

ACT Alternative Control Techniques
BACT Best Available Control Technology

BARCT Best Available Retrofit Control Technology

CARB California Air Resources Board

CCAA California Clean Air Act

CEQA California Environmental Quality Act

FCAA Federal Clean Air Act

H&S Code California Health & Safety Code

MDAB Mojave Desert Air Basin

MDAQMD Mojave Desert Air Quality Management District

NOx Oxides of Nitrogen

SCAQMD South Coast Air Quality Management District

SIP State Implementation Plan

SOx Oxides of Sulfur

USEPA U.S. Environmental Protection Agency

VOC Volatile Organic Compounds

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#### STAFF REPORT

#### Rule 1158 – Electric Power Generating Facilities

#### I. PURPOSE OF STAFF REPORT

A staff report serves several discrete purposes. Its primary purpose is to provide a summary and background material to the members of the Governing Board. This allows the members of the Governing Board to be fully informed before making any required decision. It also provides the documentation necessary for the Governing Board to make any findings, which are required by law to be made prior to the approval or adoption of a document. In addition, a staff report ensures that the correct procedures and proper documentation for approval or adoption of a document have been performed. Finally, the staff report provides evidence for defense against legal challenges regarding the propriety of the approval or adoption of the document.

#### II. EXECUTIVE SUMMARY

The Federal Clean Air Act (FCAA) requires areas designated non-attainment and classified moderate and above to implement Reasonably Available Control Technology (RACT) for sources subject to Control Techniques Guidelines (CTG) documents issued by United States Environmental Protection Agency (USEPA) and for "major sources" of volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>X</sub>) which are ozone precursors. The District adopted the 8-Hour Reasonably Available Control Technology – State Implementation Analysis (RACT SIP Analysis) in February, 2015 for the 2008 75 ppb ozone National Ambient Air Quality Standards (NAAQS). This document committed to amending current RACT for electric power generating facilities. The Mojave Desert Air Quality Management District (MDAQMD) has an electric power generating facilities rule which was approved as RACT into the State Implementation Plan (SIP) in 1999 (64 FR 38832, 07/20/1999). While there is no CTG for this source category, EPA has published an Alternative Control Techniques (ACT) document titled, "NOx Emissions from Stationary Gas Turbines" (EPA 453/R-93-007, January 1993) which describes available control techniques and their estimated costs. This ACT and other state and local rules for this category were used to help evaluate the RACT requirements of CAA §182(b)(2) and §182(f).

The proposed amendments to Rule 1158 address the 2015 *RACT SIP Analysis* commitment. The proposed amendments update definitions, impose more restrictive NOx emission limits, exemptions, monitoring and records, and compliance schedule. The amendments are based on Imperial County Air Pollution Control District (ICAPCD) Rule 400.2 – Boilers, Process Heaters and Steam Generators, as adopted February 23, 2010 and Ventura County Air Pollution Control District (VCAPCD) Rule 74.23 – Stationary Gas Turbines, as adopted January 8, 2002. ICAPCD Rule 400.2 was approved into the SIP as RACT at 78 FR 896, January 7, 2013 and VCAPCD Rule 74.23 was approved into the SIP as RACT at 68 FR 33018, June 3, 2003. Therefore, MDAQMD staff recommends amending Rule 1158 – *Electric Power Generating Facilities*.

MDAQMD Rule 1158 Final Staff Report, 09072017

#### III. STAFF RECOMMENDATION

Staff recommends that the Governing Board of the Mojave Desert Air Quality Management District (MDAQMD or District) amend proposed Rule 1158 – *Electric Power Generating Facilities* and approve the appropriate California Environmental Quality Act (CEQA) documentation. This action is necessary to satisfy 42 U.S.C. §§7511a (FCAA) §182) which requires that ozone non-attainment areas implement RACT for sources that are subject to CTGs and for major sources of ozone precursors.

The Governing Board of the Mojave Desert Air Quality Management District amended Rule 1158 – *Electric Power Generating Facilities* at the June 26, 2017 Governing Board Meeting.

#### IV. LEGAL REQUIREMENTS CHECKLIST

The findings and analysis as indicated below are required for the procedurally correct amendment of Rule 1158 – *Electrical Power Generating Facilities*. Each item is discussed, if applicable, in Section V. Copies of related documents are included in the appropriate appendices.

# FINDINGS REQUIRED FOR RULES & REGULATIONS:

- X Necessity
- X Authority
- X Clarity
- X Consistency
- X Nonduplication
- X Reference
- X Public Notice & Comment
- X Public Hearing

# REQUIREMENTS FOR STATE IMPLEMENTATION PLAN SUBMISSION (SIP):

- X Public Notice & Comment
- X Availability of Document
- X Notice to Specified Entities (State, Air Districts, USEPA, Other States)
- X Public Hearing
- $\underline{X}$  Legal Authority to adopt and implement the document.
- $\underline{X}$  Applicable State laws and regulations were followed.

# ELEMENTS OF A FEDERAL SUBMISSION:

 $\underline{N/A}$  Elements as set forth in applicable Federal law or regulations.

# CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENTS (CEQA):

- N/A Ministerial Action
- N/A Exemption
- X Negative Declaration
- N/A Environmental Impact Report
- <u>X</u> Appropriate findings, if necessary.
- X Public Notice & Comment

# SUPPLEMENTAL ENVIRONMENTAL ANALYSIS (RULES & REGULATIONS ONLY):

- X Environmental impacts of compliance.
- N/A Mitigation of impacts.
- N/A Alternative methods of compliance.

#### **OTHER:**

- <u>X</u> Written analysis of existing air pollution control requirements
- X Economic Analysis
- X Public Review

#### V. DISCUSSION OF LEGAL REQUIREMENTS

#### A. REQUIRED ELEMENTS/FINDINGS

This section discusses the State of California statutory requirements that apply to the proposed amendment of Rule 1158. These are actions that need to be performed and/or information that must be provided in order to amend the rule in a procedurally correct manner.

#### 1. State Findings Required for Adoption of Rules & Regulations:

Before adopting, amending, or repealing a rule or regulation, the District Governing Board is required to make findings of necessity, authority, clarity, consistency, non-duplication, and reference based upon relevant information presented at the hearing. The information below is provided to assist the Board in making these findings.

#### a. Necessity:

The proposed amendments to Rule 1158 are necessary to satisfy 42 U.S.C. §§7511a (FCAA §182) which requires that ozone non-attainment areas implement RACT for sources that are subject to CTGs and for major sources of ozone precursors.

#### b. Authority:

The District has the authority pursuant to California Health and Safety Code (H & S Code) §40702 to adopt, amend or repeal rules and regulations.

#### c. Clarity:

The proposed amendments to Rule 1158 are clear in that they are written so that the persons subject to the Rule can easily understand the meaning.

#### d. Consistency:

The proposed amendments to Rule 1158 are in harmony with, and not in conflict with or contradictory to any State law or regulation, Federal law or regulation, or court decisions.

#### e. Nonduplication:

The proposed amendments to Rule 1158 do not impose the same requirements as any existing State or Federal law or regulation because the District is amending this rule in response to federal NOx RACT requirements.

#### f. Reference:

The District has the authority pursuant to H & S Code §40702 to adopt, amend or repeal rules and regulations.

#### g. Public Notice & Comment, Public Hearing:

Notice for the public hearing for the proposed amendments to Rule 1158 was published May 12, 2017 for the June 12, 2017 meeting. The item was continued to June 26, 2017 to address substantive comments from EPA. See Appendix "B" for a copy of the public notice. See Appendix "C" for copies of comments, if any, and District responses.

#### 2. Federal Elements (SIP Submittals, Other Federal Submittals).

Submittals to USEPA are required to include various elements depending upon the type of document submitted and the underlying Federal law that requires the submittal. The information below indicates which elements are required for the proposed amendments to Rule 1158 and how they were satisfied.

#### a. Satisfaction of Underlying Federal Requirements:

The FCAA requires areas designated non-attainment and classified moderate and above to implement RACT for sources subject to CTG documents issued by USEPA and for "major sources" of VOCs and NO<sub>X</sub> that are ozone precursors. Because the District has an existing SIP rule for major sources, the District committed to adopting an updated RACT rule for this source category as part of the RACT SIP Analysis. The MDAQMD is proposing to update Rule 1158 – *Electric Power Generating Facilities* to reflect current federal RACT. While there is no CTG for Stationary Gas Turbines or Boilers, EPA has published an Alternative Control Techniques (ACT) document titled, "NOx Emissions from Stationary Gas Turbines" (EPA 453/R-93-007, January 1993) which describes available control techniques and their estimated costs. This ACT and other state and local rules for Stationary Gas Turbines and Boilers were used to help evaluate the RACT requirements of CAA §182(b)(2) and §182(f).

#### b. Public Notice and Comment:

Notice for the public hearing for the proposed amendments to Rule 1158 was published May 12, 2017 for the June 12, 2017 meeting. The item was continued to June 26, 2017 to address substantive comments from EPA. See Appendix "B" for a copy of the public notice. See Appendix "C" for copies of comments, if any, and District responses.

#### c. Availability of Document:

Copies of the proposed amendments to Rule 1158 and the accompanying draft staff report were made available to the public on May 12, 2017. The proposed amendments were also reviewed by the Technical Advisory Committee, a committee consisting of a variety of regulated industry and local governmental entities, on February 2, 2017.

#### d. Notice to Specified Entities:

Copies of the proposed amendments to Rule 1158 and the accompanying draft staff report were sent to all affected agencies. The proposed amendments were sent to the California Air Resources Board (CARB) and U.S. Environmental Protection Agency (USEPA) on April 28, 2017.

#### e. Public Hearing:

A public hearing to consider the proposed amendments to Rule 1158 was noticed for June 12, 2017. The item was continued to June 26, 2017 to address substantive comments from EPA. See Appendix "B" for a copy of the public notice. See Appendix "C" for copies of comments, if any, and District responses.

#### f. Legal Authority to Adopt and Implement:

The District has the authority pursuant to H&S Code §40702 to adopt, amend, or repeal rules and regulations and to do such acts as may be necessary or proper to execute the duties imposed upon the District.

#### g. Applicable State Laws and Regulations Were Followed:

Public notice and hearing procedures pursuant to H&S Code §\$40725-40728 have been followed. See Section (V)(A)(1) above for compliance with state findings required pursuant to H&S Code §40727. See Section (V)(B) below for compliance with the required analysis of existing requirements pursuant to H&S Code §40727.2. See Section (V)(C) for compliance with economic analysis requirements pursuant to H&S Code §40920.6. See Section (V)(D) below for compliance with provisions of the CEQA.

#### B. WRITTEN ANALYSIS OF EXISTING REQUIREMENTS

H & S Code §40727.2 requires air districts to prepare a written analysis of all existing federal air pollution control requirements that apply to the same equipment or source type as the rule proposed for modification by the district.

The FCAA requires areas designated non-attainment for ozone and classified moderate and above to adopt and maintain RACT rules to control the emissions of VOCs and NO<sub>x</sub> for categories which the USEPA has adopted a CTG and for all categories where there are major stationary sources of air pollution (42 U.S.C. §7511a(b)(2), FCAA 182(b)(2)). For purposes of the FCAA, portions of the District have been designated non-attainment for ozone and classified severe-17.

The MDAQMD has an electric power generating facilities rule which was approved as RACT into the SIP in 1999 (64 FR 38832, 07/20/1999). While there isn't a national CTG for this source category to help define RACT, the proposed update of Rule 1158 is more stringent than EPA's 1993 ACT and applicable New Source Performance Standards, such as "Standards of Performance for Stationary Combustion Turbines" (40 CFR 60 Subpart KKKK) and "Standards of Performance for Electric Utility Steam Generating Units" (40 CFR 60 Subpart Da). In addition, USEPA approved Imperial County Air Pollution Control District (ICAPCD) Rule 400.2 – Boilers, Process Heaters and Steam Generators, as adopted February 23, 2010, as a RACT rule on January 8, 2002 (78 FR 896) and Ventura County Air Pollution Control District (VCAPCD) Rule 74.23 – Stationary Gas Turbines, as adopted January 8, 2002, as a RACT rule June 3, 2003 (68 FR 33018) and USEPA approved Placer County APCD Rule 250 – Stationary Gas Turbines as amended October 8, 2015, as a RACT rule August 1, 2015 (81 FR 50348). These rules were used as a basis for amendment. As a result, we propose to determine that this rule fulfils RACT requirements.

#### C. ECONOMIC ANALYSIS

#### 1. General

Rule 1158 applies to all electric utility electrical generating facilities. There are no active sources subject to this rule. The most recently active sources were electric generating boilers and turbines located at the Coolwater Facility in Daggett, California. These units were shut down in March 2015.

#### 2. Incremental Cost Effectiveness

Pursuant to H&S Code §40920.6, incremental cost effectiveness calculations are required for rules and regulations which are adopted or amended to meet the California Clean Air Act (CCAA) requirements for Best Available Retrofit Control Technology (BARCT) or "all feasible measures" to control volatile compounds (VOCs), oxides of nitrogen (NOx) or oxides of sulfur (SOx). An incremental cost effectiveness analysis is not required as there are currently no active sources subject to Rule 1158.

#### D. ENVIRONMENTAL ANALYSIS (CEQA)

Through the process described below the appropriate CEQA process for the proposed amendments to Rule 1158 was determined.

- 1. The proposed amendments to Rule 1158 meet the CEQA definition of "project". They are not "ministerial" actions.
- 2. The proposed amendments to Rule 1158 are exempt from CEQA review because the proposed amendments will not create any adverse impacts on the environment. Because there is no potential that the amendment might cause the release of additional air contaminants or create any adverse environmental impacts, a Class 8 categorical exemption (14 Cal. Code Reg. §15308) applies. Copies of the documents relating to CEQA can be found in Appendix "D".

#### E. SUPPLEMENTAL ENVIRONMENTAL ANALYSIS

1. Potential Environmental Impacts

The potential environmental impacts of compliance with the proposed amendments to Rule 1158 will impose more stringent NOx emission limits, monitoring and records, and compliance schedule.

2. Mitigation of Impacts

N/A.

3. Alternative Methods of Compliance

N/A.

#### F. PUBLIC REVIEW

See Staff Report Section (V)(A)(1)(g) and (2)(b), as well as Appendix "B"

#### VI. TECHNICAL DISCUSSION

#### A. SOURCE DESCRIPTION

This rule applies to all electric utility electrical power generating boiler or steam generators, including any auxiliary boiler used in conjunction with an electrical generating boiler or steam generator, combined-cycle turbine units and to successor and replacement units, located in the Federal Ozone Non-attainment Area.

#### B. EMISSIONS

While emission limits have been lowered for this category in line with current RACT emission limits, emission reductions are not anticipated because there are no active sources.

#### C. CONTROL REQUIREMENTS

Rule 1158 does not require controls to be installed on an applicable unit, however dependent upon unit rating, NOx emissions limits are particularly stringent enough that retrofit could be required. Common retrofits for boilers and turbines could encompass flue gas recirculation, low NOx burners, water injection, selective catalytic reduction, and other common industry controls.

#### D. PROPOSED RULE SUMMARY

This section gives a brief overview of the proposed amendments to Rule 1158.

The proposed changes update definitions (including placement of definitions common amongst MD rules into Rule 102 which is being amended concurrently), update NOx emission limits notably lowering them, including efficiency factor for turbines, add startup and shutdown emission limits, include low use provision, and refine exemptions, update monitoring and records and test methods.

#### E. SIP HISTORY

- 1. SIP History.
  - a. SIP in the San Bernardino County Portion of MDAQMD

On July 1, 1993 the MDAQMD was formed pursuant to statute. Pursuant to statute it also retained all the rules and regulations of the San Bernardino County Air Pollution Control District (SBCAPCD) until such time as the Governing Board of the MDAQMD wished to adopt, amend or rescind such rules. The MDAQMD Governing Board, at its very first meeting, reaffirmed all the rules and regulations of the SBCAPCD. Rule 1158 was originally adopted 02/22/1995 and amended 08/25/1997 with SIP submittal date of 03/10/1998 and approval date 07/20/1999 (64 FR 38832).

b. SIP in the Riverside County (Blythe/Palo Verde Valley) Portion of the MDAQMD

One of the provisions of the legislations which created the MDAQMD allowed areas contiguous to the MDAQMD boundaries and within the same air basin to leave their current air district and become a part of the MDAQMD. On July 1, 1994 the area commonly known as the Palo Verde Valley in Riverside County, including the City of Blythe, left the South Coast Air Quality Management District (SCAQMD) and joined the MDAQMD.

Since USEPA adopts SIP revisions in California as effective within the jurisdictional boundaries of local air districts, when the local boundaries change the SIP as approved by USEPA for that area up to the date of the change remains as the SIP in that particular area. Upon annexation of the Blythe/Palo Verde Valley the MDAQMD acquired the SIP prior to July 1, 1994 that was effective in the Blythe/Palo Verde Valley. Therefore, the SIP history for the Blythe/Palo Verde Valley Portion of the MDAQMD is based upon the rules adopted and approved for that portion of Riverside County by SCAQMD.

As Rule 1158 was adopted after the aforementioned July 1, 1994 date, the SIP history for Palo/Verde Blythe area is the same as for the San Bernardino County area.

#### 2. SIP Analysis.

The District will request CARB to submit the proposed amendments to Rule 1158 to replace the SIP versions in effect in the San Bernardino County portion of the MDAB and the Blythe/Palo Verde Valley portion of Riverside County. This submission is necessary to satisfy 42 U.S.C. §§7511a (FCAA §182) which requires that ozone non-attainment areas implement RACT for sources that are subject to CTGs and for major sources of ozone precursors.

Since there are previously existing SIP rules for this category the District will request that they be superseded. In order to replace existing SIP rules the District is required to show that the proposed amendments are not less stringent than the provisions currently in the SIP. The new version of Rule 1158 is more stringent than the current rule in the SIP because the NOx emission limits are more stringent and all other applicable requirements are at least as stringent as the existing SIP rule.

## Appendix "A"

## Rule 1158 – Electric Power Generating Facilities Iterated Version

The iterated version is provided so that the changes to an existing rule may be easily found. The manner of differentiating text is as follows:

- 1. <u>Underlined text</u> identifies new or revised language.
- 2. <u>Lined out text</u> identifies language which is being deleted.
- 3. Normal text identifies the current language of the rule which will remain unchanged by the adoption of the proposed amendments.
- 4. [Bracketed italicized text] is explanatory material that is not part of the proposed language. It is removed once the proposed amendments are adopted.

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#### **RULE 1158**

## **Electric Power Generating Facilities**

#### (A) General

- (1) Purpose:
  - The purpose of this rule is to limit NOx emissions from Electric Power (a) Generating Facilities.
- (2) Applicability:
  - This rule applies to all Electric Utilityexisting electrical power generating (a) Boiler or Steam Generatorsteam boilers, including any auxiliary boiler used in conjunction with an electrical generating Boiler or Steam Generatorsteam boiler, combined cycle turbine unit Combined Cycle Turbine Units and to successor and replacement units that are located within the Federal Ozone Non-attainment Area.

[Updated this section consistent with the use of the terms and definitions found elsewhere in the rule]

#### (B) **Definitions**

The definitions contained in District Rule 102 – Definition of Terms shall apply unless the term is otherwise defined herein: [Definitions that are commonly used throughout the MDAOMD rule book are being relocated to existing Rule 102, which is being simultaneously amended.]

For the purposes of this rule, the following definitions shall apply:

- (1) "Aggregated (Facility-wide) Limit" – means the annual emissions limit applicable to any Electric Power Generating Facilities (facility). The aggregated emissions cap is expressed in pounds of NOx; expressed as total annual NOx emissions in pounds from each permit unit and then aggregated (summed) for all boilers and combined-cycle turbine units at the facility.
- "Annual Capacity Factor (ACF)" The ACF determines which level of emissions limits of subsection (C)(1) will apply to the boiler permit unit. The ACF shall be determined for peaking units, cycling units or baseload units, respectively, by the following calculation: [Definition no longer used.]

$$ACF_{pu} = \frac{(actual\ megawatt\ hours)}{(8760\ hrs/yr) \times (rated\ capacity\ in\ megawatts)}$$

$$ACF_{cu} = \frac{(actual\ megawatt\ hours)}{(8760\ hrs/yr) \times (rated\ capacity\ in\ megawatts)}$$

$$ACF_{bu} = \frac{(actual\ megawatt\ hours)}{(8760\ hrs/yr) \times (rated\ capacity\ in\ megawatts)}$$

- (3) "Annual Heat Input" tThe total heat inputHeat Input of fuels, in Btu, burned by a permit unit in a calendar year, as determined from the Hhigher Hheating V value and cumulative annual usage of each fuel. [Relocated to District Rule 102 Definition of Terms.]
- "<u>Boiler or Steam Generator</u>" a<u>Any combustion equipment (fired with any fuel) used to produce steam. Boiler or steam generatorBoiler or Steam Generator does not include any waste heat recovery boiler that is used to recover sensible heat from the exhaust of a combustion turbine. <u>[Relocated to District Rule 102 Definition of Terms.]</u></u>
- (5) "Cogeneration Facility" a facility which produces:
- (a) electric energy; and
- (b) steam or forms of useful energy (such as heat) which are used for industrial or commercial heating or cooling purposes. [Definition not used]
- (62) "Combined-Ceycle Turbine Unit" Any stationary gas turbine operated both for the production of electrical energy from shaft work and the useful energy produced from heat recovered from its exhaust gases.
- (327) "<u>Electric Utility</u>" <u>Aa</u> power plant which is directly regulated by the Public Utilities Commission, which provides power directly to rate-payers, and which is not a Qualifying Small Power Production Facility per Public Utility Regulatory Policies Act regulations (18 CFR Ch.1, Subpart B).
- (48) "<u>Electric Power Generation Facility</u>" <u>aAny</u> electrical <u>power generating Boiler or Seteam Generator Doilers</u>, including auxiliary boilers, or <u>combined-cycle turbine unitCombined-Cycle Turbine Units</u> used in conjunction with an electrical generating <u>Boiler or Seteam Generator Doiler</u>.
- (59) "Emissions Aggregating" means the sum of the emissions for the facility. Aggregated annual emissions are expressed as the accumulated pounds of NOx per (specified time period).

$$EM1 + EM2 + EM3 + EM4 = EM_{cap}$$

Where:

EM2 = lbs NOx/time (boiler 2)

EM3 = lbs NOx/time (unit 3)

EM4 = lbs NOx/time (unit 4)

 $EM_{cap}$  = the emissions cap per time

- (610) "Emissions Control Plan" aA document prepared by the facility which outlines how an existing facility will comply with the requirements of this rule. The plan shall contain the following:
  - (a) <u>aA</u> list of all <u>permit</u> units with their <u>R</u>rated <u>heat input Heat Input</u>s <u>and estimated annual capacity factors</u>; and
  - (b) fFor each permit unit subject to the emissions limits of subsection (C)(12) or (C)(23), a description of the emissions control systems proposed for each unit, as well as a description of any ancillary equipment related to the control of emissions, and expected technical performance specifications for any NO<sub>x</sub> emissions control systems.statement as to the selected method of achieving the applicable standard; and
  - (c) <u>Fror permit-units</u> for which installation of NOx reduction technology by May 31, 1995the date specified in section G is not practicable, a demonstration of why such installation cannot be achieved by that date, and a schedule of clearly defined compliance milestones that represent the most expeditious schedule practicable toward final compliance.
  - (d) <u>aA</u>nd shall be reviewed by the District at least once every three <u>(3)</u> years or at such time as applications are received by the District for new or revised Authority(ies) to Construct or Permit(s) to Operate.
- (741) "<u>Emission Control System Operating Parameters</u>" Any operating parameter(s) that the District deems necessary for the determination of compliance.
- (12) "Federal Ozone Non-attainment Area" That portion of San Bernardino County that lies within the lines which begin at: (a) the San Bernardino Riverside County boundary, running north along the range line common to Range 3 East and Range 2 East; (b) then west along the township line common to Township 2 North and Township 3 North; (c) then north along the San Bernardino Los Angeles County Boundary and the San Bernardino Kern County Boundary; (d) then east along latitude 35 degrees, 10 minutes north; (e) then south along longitude 115 degrees, 45 minutes west, and west along the San Bernardino Riverside County Boundary. [Contained in District Rule 102 Definition of Terms.]
- (13) "<u>Heat Input</u>" t<u>T</u>he chemical heat released due to fuel combustion in a permit unit, using the higher heating value of the fuel. This does not include the sensible

heat of incoming combustion air. [Relocated to District Rule 102 – Definition of Terms.]

(14) "Heat input Weighted Average (Combined fuels)" When a permit unit is operated on combinations of gaseous and liquid fuels, the emissions limits for the applicable annual capacity factor class shall be calculated for each boiler by the following formula: [Definition not used.]

#### Sample calculation:

$$Emission \ Limit = \frac{(gas \ ppmv * x) + (liquid \ ppmv * y)}{x + y}$$

Where:

\* = actual heat input from gaseous fuel

y = actual heat input from liquid and/or solid fuel

- (85) "<u>Higher Heating Value (HHV)</u>" <u>tT</u>he total heat liberated per mass of fuel burned (Btu per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to standard conditions.
- (69) "Independent Power Producer" a power plant which is not directly regulated by a Public Utilities Commission, which provides power to an Electric Utility rather than directly to rate payers, and which is a Qualifying Small Power Production Facility per Public Utility Regulatory Policies Act regulations (18 CFR Ch.1, Subpart B). "Low Use" A unit whose annual operation does not exceed 1000 hours.
- (107) "NOx Emissions (NOx)" †The sum of any oxides of nitrogen which can be measured in the flue gas, expressed as nitrogen dioxide (NO2).
- (18) <u>"Parts per Million (by Volume), (ppmv)" tThe number of gas molecules of a given species, or group, in one million total gas molecules. [Relocated to Rule 102 Definition of Terms.]</u>
- (19) "Permit Unit" any boiler or steam generator and/or combined cycle turbine unit required to have a Permit to Operate pursuant to District Rule 203. [See Rule 102.]
- (20) "Process Heater" any combustion equipment fired with any fuel, which transfers heat from combustion gases to water or process streams. Process heater does not include any dryers in which the material being dried is in direct contact with the products of combustion, such as: cement or lime kilns, glass melting furnaces, or smelters. [Definition not used.]

- (2111) "Rated Heat Input Heat Input" †The heat input Heat Input capacity (in MMBtu/hr) specified on the nameplate of the permit unit, unless:
  - (a) The permit unit is limited by permit condition to a lesser heat inputHeat Input than specified on the nameplate, in which case the limiting condition shall be used as the rated heat input Rated Heat Input; or
  - (b) tThe permit unit is operated above the heat input Heat Input capacity specified on the nameplate, in which case the maximum operated rate shall be used as the Rrated heat input Heat Input.
- $\frac{(22)}{(22)}$ "Reasonably Available Control Technology (RACT)" tThe lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. [See Rule 102.]
- (1223) "Shut-down Period" The one (1) hour time period immediately preceding a continuous period in which fuel flow to the permit unit is zero, or shut off for 30 minutes or longer.
- "Solar Power Production Facility" an independent power producer which is a Solar Thermal Power plant per Public Resources Code §25140.
- (2513) "Start-up Period" The one (1) hour time period immediately following a continuous period in which fuel flow to the permit unit is zero, or shut off for 30 minutes or longer.
- (<u>1426</u>) "<u>Thermal Stabilization Period</u>" The start up or shut down time necessary to bring the heat recovery steam generator to the proper operating temperature, not to exceed two (2) hours.

#### (C) Requirements

- NOx RACT Emissions Limits for Boilers or Steam Generators: [Added for (1) clarity1
  - (a) All bBoilers or Steam Generators shall not emit NOxoxides of nitrogen in excess of the following: [NOx limits updated to reflect current RACT]

NOx Emissions (ppmv)		
Gaseous Fuel	<u>Liquid Fuel</u>	
<u>30</u>	<u>40</u>	
<u>70 (Low Use)</u>	<u>70 (Low Use)</u>	
Permit Unit	NOx Limit	
Classification		

NOx Emissions (ppmv)		
Gaseous Fuel	<u>Liquid Fuel</u>	
<u>30</u>	40	
<u>70 (Low Use)</u>	<u>70 (Low Use)</u>	
Permit Unit Classification	NOx Limit	
For Baseline units	70 ppmy on gaseous fuels	
(ACFbu = 60%	115 ppmv on liquid fuels	
and greater)		
For Cycling units	100 ppmv on gaseous fuels	
$\frac{\text{(ACFeu} = 31 to)}{\text{(ACFeu}}$	115 ppmv on liquid fuels	
<del>59%)</del>		
Es a Destata e sente	125 f	
For Peaking units	125 ppmv on gaseous fuels	
(ACFpu = less	225 ppmv on liquid fuels	
<del>than 30%)</del>		

- (b) All ppmv emission limits for <u>Bb</u>oilers <u>or Steam Generators</u> are referenced at dry stack-gas conditions and 3.0 percent by volume stack-gas oxygen as an hourly average.
- (c) If the ACF of a permitted unit becomes greater than that prescribed for its permit unit classification, then such unit shall thereafter be classified as belonging to the next greater permit unit classification.
- (2) NOx RACT Emissions Limits for Combined-Ceycle Turbines:
  - (a) All Combined-Cycle Turbine Units shall not emit NOx in excess of the following: [NOx emission limits updated to reflect current RACT.]

Unit Rating (MW)	NOx Emission Gaseous Fuel Lique	ns (ppmv) id Fuel
0.3 to <2.9	<u>42</u>	<u>65</u>
2.9 to <10.0	25 x E/25	<u>65</u>
10.0 and up, With SCR	9 x E/25	25 x E/25
10.0 and up, Without SCR	15 x E/25	42 x E/25
4.0 and up, Low Use	<u>42</u>	<u>65</u>

Unit efficiency (E) shall be determined as follows:

#### <u>E = (MRE [Continuous] at LHV)(LHV)</u> (HHV)

#### where

<u>LHV</u> = the lower heating value of the fuel

HHV = the higher heating value of the fuel

<u>MRE</u> = manufacturer's rated thermal efficiency of gas turbine only without consideration of any downstream energy recovery

<u>Turbine efficiency (E) shall not be less than 25 percent; a turbine with an efficiency lower than 25 percent shall be assigned an efficiency of 25 percent for the purposes of this rule.</u>

#### **NOx Limit**

42 ppmv on gaseous fuels

65 ppmv on liquid fuels

- (b) All ppmv emission limits for eombined-cycle turbine unitCombined-Cycle Turbine Unit is referenced at dry stack-gas conditions and 15.0 percent by volume stack-gas oxygen as an hourly average.
- (3) Aggregated Annual NOx Emissions Cap:
  - (a) The Electric Power Generation Facility of Southern California Edison, or its successor, located at Coolwater Facility in Daggertt, California, shall not operate the facility with facility-wide NOx emissions in excess of the following aggregated annual limits:

Year	Aggregated Annual
	Cap (Tons/year)

Year	Aggregated Annual  Cap (Tons/year)
Ending December 31, 1996	1,516
Ending December 31, 1997	1,484
Ending December 31, 1998	1,453
Ending December 31, 1999	1,421
Ending December 31, 2000	1,387
Ending December 31, 2001	1,353
Ending December 31, 2002	1,319
After -December 31, 2002	1,319
After June 12, 2017	1,319 less 10 %

[10% reduction to aggregated total in response to USEPA comment and EIP Guidance.]

- (4) <u>Emission Limitations during Start-up, Shut-down, and Thermal Stabilization</u> Periods
  - (a) The emission limits in found in subsections (C)(1) and (C)(2), do not apply during start-up, shut-down, and thermal stabilization periods.
    - (b) Boilers or Steam Generators shall meet at least one of the following averaged over the duration of the Start-up or Shut-down Period:
      - (i) 115 ppm @ 3% O2 on gaseous fuels,
      - (ii) 135 ppm @ 3% O2 on liquid fuels.
- (c) Combined-Cycle Turbine Units shall not emit NOx in excess of the following averaged over the duration of the Start-up, Shut-down, or Thermal Stabilization Period:
  - (i) 70 ppm @ 15% O2 for turbines fired on gas or,
  - (ii) 0.16 pounds per MMBtu input for turbines fired on gas or liquid fuels or,
    - (iii) 226 ppm @ 15% O2 for turbines fired on liquid fuels.

[All units are required to install Continuous Emissions Monitoring Systems (CEMS) under (C)(5)(b) and shall operate CEMS at all times. Subsection (E)(2)(c) was deleted and language added here to explicitly avoid an interpretation that compliance determinations cannot be made using testing or CEMS data during startup, shutdown, or thermal stabilization periods.

Additionally, pursuant to EPA ruling pertaining to SIP, limits have been added to address CTG emissions during Start-up, Shut-down, and Thermal Stabilization Periods. Boiler emission rates are based on data provided by Coolwater (CEMS report 4<sup>th</sup> quarter 2010). Turbine emission rates are based on Placer County APCD's turbine rule number 250 (as amended 10-08-15).

- (5) General Equipment Requirements:
  - (a) The owner/operator of any permit units which are subject to the requirements of Subsections (C)(1) and (-23) above, shall:
    - (i) install volumetric flow rate meters in each liquid fuel line; or
    - (ii) install volumetric flow rate meters in conjunction with temperature and pressure probes in each gaseous fuel line; or
    - (iii) maintain a fuel log in the form and manner prescribed and approved by the APCO.

- (b) The owner/operator of any permit units which are subject to the requirements of subsections (C)(1) and(-23) shall have CEMS equipment installed, certified, and operating on all emissions points. The CEMS equipment shall be certified in accordance with 40 CFR 75, Appendix A, Section 6.
- (c) The owner/operator of any permit-unit subject to the requirements of subsection (C)(1) and(-23) above shall submit an Emissions Control Plan for District approval.
- (d) When any exemption pursuant to subsection (D)(3) is no longer applicable, the facility shall submit an Emissions Control Plan to the District within 90 days following such termination of exempt status.
- (e) When the annual capacity factor (ACF) threshold for the permit unit classification is exceeded, the permit unit is thereafter to be permitted as belonging to the next higher classification [As all items related to annual capacity factor including emission limits have been removed there is no need for this provision.]

#### :(6) Loss of Low Use status

(a) Any operation of a unit qualifying as Low Use, and subsequently exceeding the Low Use threshold, shall require the operator to comply with the applicable non-Low Use emission limit specified in section (C) above, according to the compliance schedule in subsection (G)(4). [This provision establishes what happens in the event that a facility no longer qualifies for "Low Use" status.]

## (D) Exemptions

- (1) During periods of unexpected curtailment of gaseous fuels, <u>Bboiler permit-or Steam Generator</u> units subject to the requirements of subsection (C)(1) which normally burn only gaseous fuel shall:
  - (a) <u>eC</u>omply with a NOx emission limit of 225 ppmv NOx when burning liquid fuel.
  - (b) This exemption shall not exceed the period of natural gas curtailment.
  - (c) This exemption shall apply when equipment is undergoing compliance testing. For the purpose of this exemption, the applicable compliance testing time period shall not exceed 48 hours per calendar year.
- (2) <u>Units The following classes of facilities</u>, which are subject to District Rules 1157 <u>Boilers and Process Heaters</u> or 1159 <u>- Stationary Gas Turbines</u>, are exempt from this rule.÷
  - (a) Cogeneration Facility

- Process Heaters
- **Independent Power Producers**
- Solar Power Production Facilities

[The deleted terms are superfluous as units subject to Rules 1157 and 1159 are exempt.]

- The provisions of subsSection (C)(1) of this rule shall not apply to permit units (3) which have no annual heat input Annual Heat Input (annual heat input Annual Heat Input equals zero).
  - (a) The owner/operator of any permit unit who wishes to claim an exemption pursuant to this subsection shall meet the record keeping requirements of this rule so as to be able to prove the exemption status.
- (4) Electric Power Generation Facility located outside of the Federal Ozone Nonattainment Area are exempt from requirements of this rule.

#### (E) Monitoring and Records

- **CEMS Quality Assurance Testing:** (1)
  - (a) An initial CEMS Certification Test shall be conducted on or before May 31, 1995, and the report shall be submitted to the District within 90 days of the completion of the testing.
  - (b) Following the initial certification of the installed CEMS, the company shall follow the Quality Assurance Procedures as outlined in 40 CFR 75, Appendix B. The Quality Assurance Program includes, but is not limited to: a daily Calibration Error determination; a quarterly Linearity Error Test; and an annual Relative Accuracy Test Audit.

#### (2) **Testing Procedures:**

- All testing required by this rule shall be in accordance with the applicable (a) procedures outlined in 40 CFR 60, and/or 40 CFR 75. All testing shall be approved by the District pursuant to the District's Compliance Test Procedural Manual.
- (b) Relative Accuracy Test Audits shall be conducted in accordance with provisions of 40 CFR 75, Appendix A, Section, Part 6.5.
- (c) Compliance determinations shall not be established based on data obtained from testing, including integrated sampling methods, during a start-up period or shut-down period of boilers nor during the thermal stabilization period for combined cycle turbine units. [See subsection (C)(4)]

- (d)—All pounds of NOx per day shall be determined as the sum of the hourly mass emissions.
- (3) Additional Procedures Boilers or Steam Generators:
  - (a) All concentration emission limits specified in subsections (C)(1) and (D)(1) for <u>Boilers or Steam Generators</u> are referenced at dry stackgas conditions and 3.0 percent by volume stack-gas oxygen as an hourly average.
- (4) Additional Procedures Combined-eCycle Turbine Units
  - (a) All concentration emission limits specified in subsection (C)(2) for combined-cycle turbine unitCombined-Cycle Turbine Units are referenced at dry stack-gas conditions and 15.0 percent by volume stack-gas oxygen as an hourly average.
- (5) Records and Reporting
  - (a) The owner/operator of a permit-unit subject to this rule shall monitor and record for each unit:
    - (i) The cumulative annual usage of each fuel. (The cumulative annual usage of each fuel shall be monitored from service meters, purchase or tank fill records, or by any other acceptable methods, as approved by the Air Pollution Control Officer (APCO).
    - (ii) The HHV for liquid fuels burned shall be determined from daily samples and reported as a monthly average for each month.
    - (iii) Units claiming Low Use shall monitor and record operating hours on a daily basis. [Added requirement for tracking hours of operation to ensure compliance with low use operating requirements]
  - (b) <u>Boiler or Steam Generator and Combined-Cycle Turbine Operating Logs</u>: On a daily basis for each permit-unit, the owner/operator shall maintain an operating log that includes, as a minimum, the following information:
    - (i) **t**The actual start-up and shut-downtop times;
    - (ii) **<u>\*T</u>**he hours of operation per day;
    - (iii) <u>\*T</u>he hourly averaged NOx emission concentration for each <u>permit</u> unit; <u>and</u>
    - (iv) A monthly summary of the accumulative aggregated annual pounds of NOx emissions for the facility; and
    - (v) The type and quantity of fuel used.
  - (c) The owner/operator of a permit unit exempt pursuant to subsection (D)(1), shall monitor and record for each permit unit the hours of operation on liquid fuel, on a daily basis.

- (d) The owner/operator of any permit unit required to perform CEMS Quality Assurance Testing shall make the reports available to the MDAQMD upon request.
- (e) All data and records required to be kept pursuant to this rule shall:
  - (i) <u>bB</u>e kept current and on site for a minimum of three (3) years, and
  - (ii) <u>P</u>rovided to District or state personnel on request.

#### (F) Test Methods

- (1) Certification and Quality Assurance Testing shall be subject to the protocols prescribed in the District's Compliance Procedural Manual as well as 40 CFR 60, Appendix A and 40 CFR 75 Appendix A and B.
- (2) Compliance Testing for Boilers <u>or Steam Generators</u> shall be performed in accordance with the following methods.
  - (a) Oxides of Nitrogen EPA Method 7E<u>- Determination of Nitrogen Oxides</u>
    <u>Emissions From Stationary Sources</u> or ARB Method 100<u>-Procedures for Continuous Gaseous Emission Stack Sampling</u>.
  - (b) Stack Gas Oxygen EPA Method 3<u>- Gas Analysis for the Determination of Dry Molecular Weight</u> or 3A<u>- Determination of Oxygen and Carbon Dioxide Concentrations in Emissions From Stationary Sources</u> or ARB Method 100<u>-Procedures for Continuous Gaseous Emission Stack Sampling.</u>
  - (c) NOx Mass Emission Rate EPA Method 19-<u>Determination of Sulfur</u>
    <u>Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates.</u>
  - (d) HHV determination shall be by one of the following test methods:
    - (i) #For liquid hydrocarbon fuels ASTM D 240-87 or ASTM D 2382-88; or
    - (ii) **F**or gaseous fuels ASTM D 1826-88, or ASTM D 1945-81 in conjunction with ASTM D 3588-89.
- (3) Compliance Testing for Combined-eCycle Turbine Units shall be performed in accordance with the following methods.
  - (a) <u>NOx Concentrations/Mass Emissions</u> NOx Emissions shall be determined by EPA Test method 7E and 3A or by EPA Test Method 20.
  - (b) Heating Value The Higher Heating Value shall be determined:
    - (i) for liquid fuels ASTM Test Method D 240-87

- (ii) for distillate fuel ASTM Test Method D 2382-88
- (iii) for gaseous fuels ASTM Test Method 3588-91; or ASTM Test Method D 1826-88; or ASTM Test Method D 1945-81.

#### (G) Compliance Schedule

- (1) The owner/operator of a permit unit subject to the requirements of section (C) shall submit to the District for approval an initial Emissions Control Plan for the facility on or before April 15, 1995six (6) months after date of rule adoption.
- (2) The owner/operator of a permit unit subject to the requirements of section (C) shall demonstrate final compliance with all applicable standards and requirements of the rule:
  - (a) By May 31, 1995 Twelve (12) months after rule adoption or loss of Low Use status, for permit units with NOx control technology in place or permit units subject to subsection (C)(2) and (C)(3); or
  - (b) Within six (6) months of installation of NOx reduction technology.
- (3) The owner/operator of a permit unit exempt pursuant to section (D) shall fulfill the following requirements, if and when such exemption no longer applies, shall:
  - (a) Submit a revised Emissions Control Plan within 90 days of the date of the change of status; and
  - (b) When applicable, submit an application(s) for an Authority To Construct/Permit To Operate (ATC/PTO) to the District no later than six months after the date of the change of status.
  - (c) No later than <u>onethree (1)</u> calendar years following the submission of the Emissions Control Plan, demonstrate final compliance with all applicable standards and requirements of the rule.
- (4) The owner or operator of any unit claiming Low Use status must notify the APCO within seven (7) days if the hour-per-year limit is exceeded. If the hour per-year-limit is exceeded, the exemption shall be permanently withdrawn. Within 30 days after the exceedance, the owner or operator must submit an Emission Control Plan.

### (H) Severability of Portions of this Rule

(1) If any portion of this rule is found to be invalid or unenforceable, such finding shall have no effect on the validity and enforceability of the remaining portions of the rule, which are severable and shall continue to be in full force and effect.

[SIP: Approved 07/20/99 64 FR 38832, 40 CFR 52.220(c)(254)(i)(H)(2)]

# **Appendix "B"**Public Notice Documents

- 1.
- Proof of Publication Daily Press Proof of Publication Riverside Press Enterprise 2.

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#### PROOF OF PUBLICATION

(2015.5 C.C.P.)

#### STATE OF CALIFORNIA, **County of San Bernardino**

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the publisher of the **DAILY** PRESS, newspaper of general circulation, published in the City of Victorville, County of San Bernardino, and which newspaper has been adjudicated a newspaper of general circulation by the Superior Court of the County of San Bernardino, State of California, under the date of November 21, 1938, Case number 43096, that the d notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

May 12

All in the year 2017.

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated this: 12th day of May, 201

Signature 5 <u>Leslie Jacobs</u>

#### This space is the County Clerk's Filing Stamp

FILED MOJAVE DESERT AQMD CLERK OF THE BOARD

MAY 1 6 2017

#### **Proof of Publication of** NOTICE OF HEARING

NOTICE OF HEARING

NOTICE OF HEARING
INTICE IS HEREBY
GIVEN that the Governing Board of the Mojave
beser Air Quality Management District
(MDAQMD) will conduct
public hearings on June
12, 2017 at 10:00 A.M.
to consider the proposed
actions: a. The amendment of Rule 102 – Definition of Terms; b. The
amendment of Rule 1152 –
Electric Utility Operations; and c. The amendment of Rule 1162 – Polyester Resin Operations.

ment of Rule 1162 – Polysester Resin Operations.

SAID HEARINGS will be conducted in the Governing Board Chambers located at the MDAQMD offices 14306 Park Avenue, Victorville, CA 92392-2310 where all interested persons may be present and be heard. Copies of the proposed amended Rules and the Staff Reports are on file and may be obtained from the Executive Office Manager at the MDAQMD Offices. Written comments may be submitted to Brad Polinez, Executive Director at the above office address. Comments must be received no later than June 9, 2017 to be considered. If you have any questions regarding Rule 102 or Rule 1162 you may contact Tracy Walters at (760) 245-1661 extension 6122 for further information. If you have any questions regarding Rule 1158 you may contact Tracy Walters at (760) 245-1661 extension 1846 for further information. If you have any questions regarding Rule 1158 you may contact Tracy Walters at (760) 245-1661 extension 1846 for further information. If you have any questions regarding Rule 1158 you may contact Tracy Walters at (760) 245-1661 extension 1846 for further information. If you have any questions regarding Rule 1158 you may contact Tracy Walter Information. If you have any questions regarding Rule 1158 you may contact Tracy Walter Information Information.

The proposed amendment of Rule 102 – Definition of Terms is necessary to shift common definitions used in the MDAQMD rulebook to Rule 102, and to update them for consistency and clarity.

The proposed amendment of Rule 1138 – Electric Power Generating Facilities will satisfy 42 U.S.C. §§7511a (Federal Clean Air Act §182) which requires that ozone non-attainment areas implement. Reasonably Available Control Technology (RACT) for sources that are subject to Control Technology (RACT) for sources that are subject to Control Technology (RACT) documents issued by United States Environmental Protection Agency (USEPA) states Environmental Pro-tection Agency (USEPA) and for "major sources" of volatile organic com-pounds (VOCs) and ox-ides of nitrogen (NOX) which are ozone precurs-ors.

The proposed amendments to Rule 1162 – Polyester Resin Operations are necessary to salisfy 42 U.S.C. §\$7511a (Federal Clean Air Act §182) which requires that 220ne non-attainment areas implement Reasonably Available Control Technology (RACT) for sources that are subject to Control Technology Guidelines (CTG) documents issued by United States Environmental Protection Agency (USEPA) and for "major sources" of volatile organic compounds (VOCs) and oxdess of nitrogen (NOX) which are ozone precursors.

Pursuant to the California Environmental Quality Act (CEQA) the MDAQMD has determined that a Categorical Exemption (Class 8 – 14 Cal. Code Reg §15308) applies and has prepared a Notice of Exemption for this action.

Published in the Daily Press May 12, 2017 (F-71)

# THE PRESS-ENTERPRISE

1825 Chicago Ave, Suite 100 Riverside, CA 92507 951-684-1200 951-368-9018 FAX

PROOF OF PUBLICATION (2010, 2015.5 C.C.P)

Publication(s): The Press-Enterprise

PROOF OF PUBLICATION OF

Ad Desc.:

I am a citizen of the United States. I am over the age of eighteen years and not a party to or interested in the above entitled matter. I am an authorized representative of THE PRESS-ENTERPRISE, a newspaper in general circulation, printed and published daily in the County of Riverside, and which newspaper has been adjudicated a newspaper of general circulation by the Superior Court of the County of Riverside, State of California, under date of April 25, 1952, Case Number 54446, under date of March 29, 1957. Case Number 65673, under date of August 25, 1995, Case Number 267864, and under date of September 16, 2013, Case Number RIC 1309013; that the notice, of which the annexed is a printed copy, has been published in said newspaper in accordance with the instructions of the person(s) requesting publication, and not in any supplement thereof on the following dates, to wit:

#### 05/12/2017

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Date: May 12, 2017 At: Riverside, California

Legal Advertising Representative, The Press-Enterprise

MOJAVE DESERT AQMD 14306 PARK AVE ATTN: D. HERNANDEZ VICTORVILLE, CA 92392

Ad Number: 0010946942-01

P.O. Number:

Ad Copy:

#### NOTICE OF HEARING

NOTICE IS HEREBY GIVEN that the Governing Board of the Mojave Desert Air Quality Management District (MDAQMO) will conduct public hearth see page 20 ct. 1 ons. a. The amendment of Rule 102 - Definition of Terms b. The amendment of Rule 1182 - Electric Utility Operations; and c. The amendment of Rule 1184 - Polyester Resin Operations.

Operations.

SAID HEARINGS will be conducted in the Governing Board Chambers located at the MDAQ/MD affices 14366 Park Avenue, victorville, c 2 9239:2310 where all interested persons may be present and be heard. Cooled of the propose thremade Rule and Losles of the propose thremade Rule and the propose of the propose of

The proposed amendment of Rule 102 – Definition of Terms is necessary to shift common definitions used in the MDAQMD rulebook to Rule 102, and to update them for consistency and clarify.

The proposed amendment of Rule 1158 - Electric Power Generating Facilities will satisfy 42 U.S.C. \$575/10 (Federal Clean Air Act 182) which requires that azone non-attainment areas implement Reasonably Available Control Technology (RACT) for sources that are subject to Control Techniques Guidelines (CTG) documents issued by United States Environmental Protection. Agency (USEPA) and for "major sources" of volatile organic compounds (VOCs) and oxides of nitrogen (NOX) which are ozone precursors.

(NOX) which are ozone precursors.

The proposed amendments to Rule 1162 – Polyester Resin Operations are necessary to satisfy 24 U.S.C. \$957110 (Federal Clean Air Act \$192) which requires that ozone non-attainment areas implement Reasonably Available Control Technology (RACT) for sources that are subject to Control Technology Guidelines (CTG) documents Issued by United States Environmental Protection Agency (USEA) and for mainr sources of a control of the control of

Pursuant to the California Environmental Quality Act (CEQA) the MDAQMD has determined that a Cadesparical Exemption (Class 8 – 14 Cal. Code Reg §1308) applies and has prepared a Notice of Exemption for this action.

> FILED MOJAVE DESERT AQMD CLERK OF THE BOARD

> > MAY 1 8 2017

ву

# **Appendix "C"**Public Comments and Responses

- EPA comment on preliminary draft.
   EPA comment on Draft

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### **EPA Comments on Preliminary Draft Mojave Desert AQMD Rule 1158, "Electric Power Generating Facilities"**

- (A)(2)(a) "Applicability": We recommend changing the term "electrical generating" to "electric power generating," consistent with use of the term elsewhere (e.g., in the rule title and at (B)(7)). (B)(2) "Annual Capacity Factor": If the District is deleting this definition, please replace use of the term appropriately throughout the rule (see, e.g., (B)(13), (C)(4)(e)).
- (B)(9) "Emissions Control Plan": We recommend expanding the descriptive requirements for emissions control to include other documentation, including any operational requirements or parameters needed to meet the emissions limit. See, for example, Monterey Bay Unified Air Pollution Control District Rule 431, paragraph 4.1.2.2.

A description of the emissions control systems proposed for each unit, as well as a description of any ancillary equipment related to the control of emissions, and expected technical performance specifications for any CO and NOx emissions control systems.

- (B)(19) "Permit Unit": This definition, and the use of this definition in this rule, is confusing, as it seems all units that are applicable to the specific requirements throughout this rule are "Permit Units" and that all units that would be power plant combined cycle turbines or boilers would be by their nature permit units otherwise. Consider removing all references to the term, and replacing with simply, "unit".
- (B)(20) "Process Heater": This rule (e.g., paragraph (A)(2)) does not appear to apply to process heaters. Therefore, it seems unnecessary and confusing to define and then explicitly exempt this class of sources.
- (B)(24) "Solar Power Production Facility": The California Public Resources Code section referenced is not a SIP-approved regulation. Please provide the intended language from this section directly in the rule.
- (C)(3): This section provides for an aggregate emission limit for the Coolwater Facility in Daggett, CA. EPA understands that the Coolwater Facility was recently retired. As a result, we recommend deleting this provision and all references to it. If this language is retained, please consider that aggregating emissions from multiple units over time is considered averaging and would be evaluated under EPA's Economic Incentive Programs (EIP) policy. Among other requirements, EIPs which provide operating flexibility must generally assure some degree of environmental benefit in exchange for the flexibility. This is commonly seen as a 10% reduction in the emission limit that would otherwise be applicable.
- There also appears to be a typographic error, as the last applicable date in the table is December 31, 2017, but the first applicable date for all units at the facility to comply with the rest of the requirements of this rule is December 31, 2016 (which has already passed).
- (D)(3): This exempts units with no annual heat input from the boiler NOx limits in (C)(1). This exemption seems unnecessary. Any unit with zero annual heat input should be meeting all the provisions of (C)(1).
- (E)(2)(c): All units are required to install Continuous Emissions Monitoring Systems (CEMS) under (C)(4)(b). Section (E)(2)(c) could be interpreted as an exemption from compliance determinations made from a CEMS during startup and shutdown periods. Such exemptions are not approvable into SIPs. Please revise (E)(2)(c) appropriately.
- (G)(3)(c): A three calendar year implementation and compliance schedule seems excessively long for a facility that was formerly exempt under the provisions of section (D). The only provisions which would seem to be readily changed in this scenario are deactivation (zero annual

heat input per (D)(3)) or inclusion into the nonattainment area per (D)(4). Please consider reducing this period to a shorter time frame.

#### Response to EPA Preliminary Draft Comments.

- A(2)(a) Updated the term in the revised Draft 1 "electrical generating" to "electric power generating," consistent with use of the term elsewhere.
- (B)(2) The provisions for incorporating an annual capacity factor into emission limits has been removed and hence all related terms were deleted.
- (B)(9) Incorporated EPA suggested text expanding the descriptive requirements for emissions control.
- (B)(19) EPA noted that the term "Permit Unit" was confusing as all applicable units are "Permit Units". The District does not disagree and has removed the definition and simply replaced "Permit Unit" with "unit".
- (B)(20) Deleted all definitions and terms related to "Process Heater" as the exemption in subsection (D)(2) was rewritten and no longer refers to "Process Heater".
- (B)(24) Deleted all definitions and terms related to "Solar Power Production Facility" as the exemption in subsection (D)(2) was rewritten and no longer refers to "Solar Power Production Facility".
- (C)(3) This section provides for an aggregate emission limit for the Coolwater Facility in Daggett, CA. Pursuant to EPA's Economic Incentive Programs (EIP) policy, to assure some degree of environmental benefit in exchange for the operational flexibility the aggregate limit affords, a 10% reduction to the aggregate emission limit was made.
- (D)(3) The District respectfully intends to maintain the provision that a unit with no annual heat input from the boiler is exempt from the boiler NOx emission limits.
- (E)(2)(c) All units are required to install Continuous Emissions Monitoring Systems (CEMS) under (C)(5)(b) and shall operate CEMS at all times. Subsection (E)(2)(c) was deleted and language added, as subsection (C)(4), to explicitly avoid an interpretation that compliance determinations cannot be made using testing or CEMS data during startup, shutdown, or thermal stabilization periods.
- (G)(3)(c) District shortened the compliance schedule found in (G)(3)(c) from three calendar years to one calendar year to implementation and compliance.

### EPA Comments/MDAQMD Response on <u>Draft</u> Mojave Desert AQMD Rule 1158, "Electric Power Generating Facilities"

USEPA Region 9 was sent Draft 1 via email on April 28, 2017. This draft incorporated changes per USEPA Region 9 comments on the Preliminary Draft Rule 1158. USEPA Region 9 after review of Draft 1 had one additional comment which was to address EPA Policy on Startup and Shutdown. The MDAQMD addressed EPA Policy with input from K. Gong, made through an email thread (see below) to C. Anderson (MDAQMD), by adding Startup and Shutdown emission limits for Boilers and adding Startup, Shutdown, and Thermal Stabilization Period emission limits for turbines.

#### **Chris Anderson**

From: Gong, Kevin <Gong.Kevin@epa.gov>
Sent: Monday, May 22, 2017 9:59 AM

To: Chris Anderson
Cc: Steckel, Andrew

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hi Chris,

Thanks for following up and clarifying. I think this language conforms with EPA policy.

Let me know if you have any other questions issues you'd like our input on.

-Kevin

From: Chris Anderson [mailto:canderson@mdaqmd.ca.gov]

Sent: Monday, May 22, 2017 8:12 AM
To: Gong, Kevin <Gong.Kevin@epa.gov>
Cc: Steckel, Andrew <Steckel.Andrew@epa.gov>

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hi Kevin,

This was an oversight on my part in writing in the limits. I had intended to include them during startup, shutdown, and thermal stabilization periods. I've added *thermal stabilization* to alleviate conflict with EPA policy. Does the language here meet the policy?

- (c) Combined-Cycle Turbine Units shall not emit NOx in excess of the following averaged over the duration of the Start-up, Shut-down, or Thermal Stabilization Period:
  - (i) 70 ppm @ 15% O2 for turbines fired on gas or,
  - (ii) 0.16 pounds per MMBtu input for turbines fired on gas or liquid fuels or,
  - (iii) 226 ppm @ 15% O2 for turbines fired on liquid fuels.

From: Gong, Kevin [mailto:Gong.Kevin@epa.gov]

Sent: Friday, May 19, 2017 4:44 PM

To: Chris Anderson Cc: Steckel, Andrew

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hello Chris,

I've reviewed this new draft and discussed it with my colleagues. These email comments repeat the voicemail I left for you this morning. While these changes address many startup and shutdown emissions, it continues to exempt combined

cycle turbine units during thermal stabilization periods which conflicts with EPA's policy on excess emissions during these types of operation. We recommend addressing this by adding thermal stabilization limits or work practices consistent with the other new limitations for units during startup and shutdown periods.

We know you're on a tight schedule, so please let me know if you'd like me to elevate this.

Thanks,
-Kevin

From: Chris Anderson [mailto:canderson@mdaqmd.ca.gov]

Sent: Thursday, May 18, 2017 4:28 PM To: Gong, Kevin < Gong. Kevin@epa.gov>

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Attached is Draft2. Please review and comment ASAP.

#### **Thanks**

From: Gong, Kevin [mailto:Gong.Kevin@epa.gov]

Sent: Thursday, May 18, 2017 4:12 PM

To: Chris Anderson

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hi Chris,

Thanks for the additional context. I'll await the new language.

Best,

-Kevin

From: Chris Anderson [mailto:canderson@mdaqmd.ca.gov]

Sent: Thursday, May 18, 2017 3:41 PM To: Gong, Kevin < Gong, Kevin@epa.gov>

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hi Kevin,

I see your point regarding slight differences in language pertaining to SS between 1158 and other Districts rules. Although I'd like for as much consistency amongst like rules, we prefer to leave the language pertaining to SSTSP hours untouched and leave in thermal stabilization periods. It is in the end, less total hours allotted than the Yolo Solano rule which allows 1 and 6.

Currently updating rule with SS emission limits(per your suggestion) and will mod the staff report as such. We originally planned rule adoption on June 12 but because of the changes we are pushing back to June 26 (a rare occasion where we have two GB meetings in same month). I ask that you accommodate this by completing EPA review prior to the new adoption date.

I will have revised staff report to you by middle of next week.

Thanks

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#### Chris A.

From: Gong, Kevin [mailto:Gong.Kevin@epa.gov]

Sent: Thursday, May 11, 2017 10:52 AM

To: Chris Anderson

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Good morning Chris,

Thanks for doing the research to find those numbers, I believe this is the cleanest way to resolve the SSM issue. I've reviewed this language, and it appears to include appropriate limitations for all operating periods for boilers. For combined cycle turbines: do those limits also apply during thermal stabilization? The Placer and Yolo-Solano rules do not include this as an exempt period for turbines (the Yolo-Solano rule instead indicates that startup for combined cycle turbines are longer to account for thermal stabilization).

Thanks,

-Kevin

From: Chris Anderson [mailto:canderson@mdaqmd.ca.gov]

Sent: Thursday, May 11, 2017 8:10 AM
To: Gong, Kevin < Gong. Kevin@epa.gov>

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

I've added SSM limits. What do you all think?

From: Gong, Kevin [mailto:Gong.Kevin@epa.gov] Sent: Wednesday, May 10, 2017 12:18 PM

To: Chris Anderson

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hi Chris,

Thanks again for your voicemail, I was taking another call at the time.

I've attached Placer County APCD's turbine rule as another example of approved SSM language. Section 302 gives specific limits for combined cycle units, while 303 gives work practices for simple cycle units. I think I recall discussing this when we talked last week, but you could also look at the most recent operating permit for achievable work practices or emission limits during startup or shutdown. I don't recall the result of our discussion on that (was this not practical?)

Please let me know if you have any additional questions or concerns about this. I have a 1PM and a 3PM, but am free otherwise.

Thanks,

#### Kevin Gong

Rules Office, Air Division (AIR-4)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3073

3

From: Chris Anderson [mailto:canderson@mdaqmd.ca.gov]

Sent: Tuesday, May 09, 2017 2:55 PM
To: Gong, Kevin < Gong. Kevin@epa.gov>

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hi Kevin,

We propose to incorporate your language san emission limits during SSTSP. I reviewed our model rule for boilers and our rule has shorter SSTSP and will now include your recommended language for good operating practices. Please take a look at the attached and let me know what EPA thinks.

#### Thanks

#### Chris

From: Gong, Kevin [mailto:Gong.Kevin@epa.gov]

Sent: Thursday, May 04, 2017 10:53 AM

To: Chris Anderson Cc: Steckel, Andrew

Subject: RE: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hello Chris,

Here is a copy of SIP-approved stationary gas turbine rule for the Yolo-Solano AQMD, per our conversation this morning regarding the proposed emission limit language for startup, shutdown, and thermal stabilization periods. Please see section 302 for the provisions related to limits and requirements during startup/shutdown periods.

Please let me know if you have any questions.

Best regards,

#### **Kevin Gong**

Rules Office, Air Division (AIR-4)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3073

From: Chris Anderson [mailto:canderson@mdaqmd.ca.gov]

Sent: Friday, April 28, 2017 3:10 PM

To: Steckel, Andrew <Steckel.Andrew@epa.gov>; Carol Sutkus (carol.sutkus@arb.ca.gov) <carol.sutkus@arb.ca.gov>

Cc: Alan De Salvio <a href="mailto:Adesalvio@mdaqmd.ca.gov">Adesalvio@mdaqmd.ca.gov</a>; Tracy Walters <a href="mailto:twalters@mdaqmd.ca.gov">twalters@mdaqmd.ca.gov</a>; Gong, Kevin

<Gong.Kevin@epa.gov>

Subject: Amendment of MDAQMD Rule 1158- Electric Power Generating Facilities

Hello,

The MDAQMD is proposing to amend Rule 1158 – *Electric Power Generating Facilities* at the June 12, 2017 Governing Board meeting.

The amendments to Rule 1158 – Electric Power Generating Facilities are necessary to satisfy 42 U.S.C. §§7511a (Federal Clean Air Act §182) which requires that ozone non-attainment areas implement Reasonably Available Control Technology (RACT) for sources that are subject to Control Technology Guidelines (CTG) documents issued by United States Environmental Protection Agency (USEPA) and for "major sources" of volatile organic compounds (VOCs) and oxides of nitrogen (NOX) which are ozone precursors. The proposed amendments update definitions, NOx emission limits, exemptions, monitoring and records, and compliance schedule. While there is no CTG for this source category, EPA has published an Alternative Control Techniques (ACT) document titled, "NOx Emissions from Stationary Gas Turbines" (EPA 453/R-93-007, January 1993) which describes available control techniques and their estimated costs. The proposed amendments are based on this ACT and various district rules deemed RACT (Imperial County Air Pollution Control District (ICAPCD) Rule 400.2 – Boilers, Process Heaters and Steam Generators, as adopted February 23, 2010, 78 FR 896, January 7, 2013 and Ventura County Air Pollution Control District (VCAPCD) Rule 74.23 – Stationary Gas Turbines, as adopted January 8, 2002, 68 FR 33018, June 3, 2003.)

The staff report for this proposed action is available for your review at <a href="http://www.mdaqmd.ca.gov/index.aspx?page=210">http://www.mdaqmd.ca.gov/index.aspx?page=210</a>

Please direct any questions or written comments regarding the proposed rule as soon as possible, but no later than, June 9, 2017. We realize this deadline falls a few days short of 45 days, therefore we respectfully request a slightly expedited review.

Thank you,

#### Chris Anderson

Air Quality Engineer 760 245-1661 x1846 canderson@mdaqmd.ca.gov

California is in a drought emergency.
Visit <a href="https://www.SaveOurH2O.org">www.SaveOurH2O.org</a> for water conservation tips.

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#### Appendix "D"

### California Environmental Quality Act Documentation



Mojave Desert Air Quality Management District DATE FILED & POSTED 306 Park Avenue, Victorville, CA 92392-2310 Posted On: 1/03/17 760.245.1661 • fax 760.245.2699

Receipt No: 36-0703/7-392

Visit our web site: http://www.mdaqmd.ca.gov Brad Poiriez, Executive Director

#### NOTICE OF EXEMPTION

County Clerk
San Bernardino County
San Bernardino, CA 92415
MDAQMD Executive Assistant

FROM: Mojave Desert Air Quality Management District 14306 Park Ave

Victorville, CA 92392-2310

**PROJECT TITLE:** Amendment of Rule 1158 – Electric Power Generating Facilities.

**PROJECT LOCATION – SPECIFIC:** San Bernardino County portion of the Mojave Desert Air Basin and Palo Verde Valley portion of Riverside County.

PROJECT LOCATION - COUNTY: San Bernardino and Riverside Counties

**DESCRIPTION OF PROJECT:** The proposed amendment of Rule 1158 – *Electric Power Generating Facilities* will satisfy 42 U.S.C. §§7511a (Federal Clean Air Act §182) which requires that ozone non-attainment areas implement Reasonably Available Control Technology (RACT) for sources that are subject to Control Techniques Guidelines (CTG) documents issued by United States Environmental Protection Agency (USEPA) and for "major sources" of volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>X</sub>) which are ozone precursors.

NAME OF PUBLIC AGENCY APPROVING PROJECT: Mojave Desert AQMD

NAME OF PERSON OR AGENCY CARRYING OUT PROJECT: Mojave Desert AQMD

#### **EXEMPT STATUS (CHECK ONE)**

Ministerial (Pub. Res. Code §21080(b)(1); 14 Cal Code Reg. §15268)

Emergency Project (Pub. Res. Code §21080(b)(4); 14 Cal Code Reg. §15269(b))

X Categorical Exemption – Class 8 (14 Cal Code Reg. §15308)

REASONS WHY PROJECT IS EXEMPT: The proposed amendments to Rule 1158 are exempt from CEQA review because the proposed amendments will not create any adverse impacts on the environment. Rule 1158 will impose more restrictive NOx limits, update definitions, exemptions, and monitoring and records, and compliance schedule. Because there is no potential that the amendments might cause the release of additional air contaminants or create any adverse environmental impacts, a Class 8 categorical exemption (14 Cal. Code Reg. §15308) applies.

LEAD AGENCY CONTACT PERSON: Brad Poiriez PHONE: (760) 245-1661
SIGNATURE: Aune 26, 2017
DATE RECEIVED FOR FILING:

FILED/POSTED

County of Riverside Peter Aldana Assessor-County Clerk-Recorder

E-201700828 07/03/2017 02:48 PM Fee: \$ 50.00 Page 1 of 1



#### Mojave Desert Air Quality Management District

14306 Park Avenue, Victorville, CA 92392-2310

760.245.1661 • fax 760.245.2699

Visit our web site: http://www.mdaqmd.ca.gov Brad Poiriez, Executive Director

#### NOTICE OF EXEMPTION

TO:

Clerk/Recorder

Riverside County 3470 12th St.

Riverside, CA 92501

FROM: Mojave Desert

Air Quality Management District

14306 Park Ave

Victorville, CA 92392-2310

X MDAQMD Executive Assistant

**PROJECT TITLE:** Amendment of Rule 1158 – Electric Power Generating Facilities.

**PROJECT LOCATION – SPECIFIC:** San Bernardino County portion of the Mojave Desert Air Basin and Palo Verde Valley portion of Riverside County.

PROJECT LOCATION - COUNTY: San Bernardino and Riverside Counties

**DESCRIPTION OF PROJECT:** The proposed amendment of Rule 1158 – *Electric Power Generating Facilities* will satisfy 42 U.S.C. §§7511a (Federal Clean Air Act §182) which requires that ozone non-attainment areas implement Reasonably Available Control Technology (RACT) for sources that are subject to Control Techniques Guidelines (CTG) documents issued by United States Environmental Protection Agency (USEPA) and for "major sources" of volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>X</sub>) which are ozone precursors.

NAME OF PUBLIC AGENCY APPROVING PROJECT: Mojave Desert AQMD

NAME OF PERSON OR AGENCY CARRYING OUT PROJECT: Mojave Desert AQMD

#### EXEMPT STATUS (CHECK ONE)

Ministerial (Pub. Res. Code §21080(b)(1); 14 Cal Code Reg. §15268) Emergency Project (Pub. Res. Code §21080(b)(4); 14 Cal Code Reg. §15269(b))

X Categorical Exemption – Class 8 (14 Cal Code Reg. §15308)

REASONS WHY PROJECT IS EXEMPT: The proposed amendments to Rule 1158 are exempt from CEQA review because the proposed amendments will not create any adverse impacts on the environment. Rule 1158 will impose more restrictive NOx limits, update definitions, exemptions, and monitoring and records, and compliance schedule. Because there is no potential that the amendments might cause the release of additional air contaminants or create any adverse environmental impacts, a Class 8 categorical exemption (14 Cal. Code Reg. §15308) applies.

LEAD AGENCY CONTACT PERSON:	Brad Poiriez	<b>PHONE:</b> (760)	<u>245-1661</u>
( () 11. 1	TITLE: Executive	Director DATE:	June 26, 2017
DATE RECEIVED FOR FITING:			

## **Appendix "E"**Bibliography

The following documents were consulted in the preparation of this staff report.

- EPA Alternative Control Techniques (ACT) document titled, "NOx Emissions from Stationary Gas Turbines" (EPA 453/R-93-007, January 1993)
- Imperial County Air Pollution Control District (ICAPCD) Rule 400.2 Boilers, Process Heaters and Steam Generators, as adopted February 23, 2010.
- Ventura County Air Pollution Control District (VCAPCD) Rule 74.23 Stationary Gas Turbines, as adopted January 8, 2002.
- Placer County Air Pollution Control District (PCAPCD) Rule 250 Stationary Gas Turbines, as amended October 8, 2015.
- CEMS Quarterly Fuel Use and Excess Emissions Report for Coolwater Generating Station. January 3, 2011.

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